tion was in the glaſs or the non-electric; ſo the placing another perſon between them, ſtanding on wax, with a baſon in his hand, into which the water from the phial is pour'd, *while he at the inſtant of pouring* preſents a finger of his other hand to the ſpirits, does not at all alter the caſe; the ſtream from the phial, the ſide of the baſon, with the arms and body of the perſon on the wax, being all together but as one long wire, reaching from the internal ſurface of the phial to the ſpirits.

June 29, 1751. In Capt. *Waddel*'s account of the effects of lightening on his ſhip, I could not but take notice of the large comazants (as he calls them) that ſettled on the ſpintles at the topmaſts heads, and burnt like very large torches (before the ſtroke). According to my opinion, the electrical fire was then drawing off, as by points, from the cloud; the largeneſs of the flame betokening the great quantity of electricity in the cloud: and had there been a good wire communication from the ſpintle heads to the ſea, that could have conducted more freely than tarred ropes, or maſts of turpentine wood, I imagine there would either have been no ſtroke; or, if a ſtroke, the wire would have conducted it all into the ſea without damage to the ſhip.

His compaſſes loſt the virtue of the load ſtone, or the poles were revers'd; the North point turning to the South.—By electricity we have (*here* at *Philadelphia*) frequently given polarity to needles, and reverſed them at pleaſure.

Mr *Wilſon*, at *London*, tried it on too large maſſes, and with too ſmall force.

A ſhock from four large glaſs jars, ſent through a fine ſewing needle, gives it polarity, and it will traverſe when laid on water.—If the needle when ſtruck lies Eaſt and Weſt, the end enter'd by the electrick blaſt points North. —If it lies North and South, the end that lay towards the North will continue to point North when placed on water, whether the fire enter'd at that end or at the contrary end.

The polarity given is ſtrongeſt when the needle is ſtruck, lying North and South, weakeſt when lying Eaſt and Weſt; perhaps if the force was ſtill greater, the South end, enter'd by the fire, (when the needle lies North and South) might become the North, otherwiſe it puzzles us to account for the inverting of compaſſes by lightening; ſince their needles muſt always be found in that ſituation, and by our little experiments, whether the blaſt entered the North and went out at the South end of the needle, or the contrary, ſtill the end that lay to the North ſhould continue to point North.

In theſe experiments the ends of the needles are ſometimes finely blued like a watch ſpring by the electric flame. —This colour given by the flaſh from two jarrs only, will wipe off, but four jarrs fix it, and frequently melt the needles. I ſend you ſome that have had their heads and points melted off, by our mimic lightening; and a pin that had its point melted off, and ſome part of its head

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